

## UNIVERSITY LARGE LECTURES IN MICASE: A SYSTEMIC FUNCTIONAL ANALYSIS

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**ABSTRACT.** *This study adopts a systemic functional approach (Halliday 1994, 2004) and Young's taxonomy for lectures to explore the discourse strategies that lecturers use in MICASE (Michigan Corpus of Academic Spoken English) as well as the structure that they usually follow in the delivery of the subject content.*

*Results confirm firstly that academic lectures are a complex genre which not only contains ideational content but also evaluates the subject matter, and reflects the lecturer's tenor with the students.*

*MICASE lecturers demonstrate their authority to students through the use of disciplinary resources, formal conventions and idiosyncratic style. They also take a personal position towards issues in an unfolding explanation using epistemic adjectives and adverbs and stance markers with certain differences according to academic divisions.*

**KEY WORDS.** *SFL (Systemic Functional Linguistics), lectures, speaker stance, clause relations.*

**RESUMEN.** *Se analizan las estrategias y la estructura discursiva de las conferencias del corpus MICASE (El corpus de inglés académico oral de la Universidad de Michigan) desde una perspectiva dual: el enfoque sistémico-funcional y el estudio de Young sobre conferencias.*

*Los resultados demuestran que las conferencias son un género complejo que no solo incluye el contenido ideacional sino diversas evaluaciones de los profesores sobre los temas tratados.*

*Los profesores usan fuentes académicas, convenciones formales y un estilo idiosincrático. También muestran su punto de vista mediante el uso de marcadores modales y adverbios que varían en función de las distintos tipos de conferencia (Biología/ Ciencias de la Salud, Arte y Humanidades, Ciencias Sociales/ Educación).*

**PALABRAS CLAVE.** *LSF (Lingüística sistémico-funcional, conferencias, postura del hablante, relaciones oracionales).*

## 1. INTRODUCTION. LECTURES AS A GENRE

Bhatia (2002: 23) defines Genre Analysis as “the study of situated linguistic behaviour in institutionalized academic or professional settings, whether in terms of *typification of rhetorical action*, as in Miller (1984), and Berkenkotter and Huckin (1995); *regularities of staged, goal oriented social processes*, as in Martin, Christie and Rothery (1987), and Martin (1993); or *consistency of communicative purposes*, as in Swales (1990) and Bhatia (1993)”. More recently, Bax (2011: 60) highlights that genres are realized through language and other modes and that genres also change, hybridize or disappear. From a systemic functional linguistics perspective, a genre is social activity in a particular culture, the linguistic realizations of which make up a register. (Martin and Rose 2003). We adopt in this paper the latter definition. It is interesting to note that genres are conventionalized constructs of a particular professional community and culture (Bhatia 2004, 2008). Nonetheless, they are also “dynamic rhetorical structures that can be manipulated according to conditions of use” (Berkenkotter and Huckin 1995: 6).

*Lecture* comes from Latin *lectus*, past participle of *legere*, “to read”. In general terms, lectures convey critical information, background and theories. They are also institutionalized extended holdings of the floor in which one speaker imparts his or her views on a subject, these thoughts comprising what can be called a ‘text’ (Goffman 1981: 165). Lectures are a processual activity rooted in a social situation with real persons in a given culture. Dudley-Evans and Johns’ (1981: 134 and ff.) study has differentiated varied types of lectures, namely, reading, conversational and rhetorical style, the latter having frequent asides and digressions. Bligh (2000) describes lecturing technique, particularly the organization of lectures: how to make a point, the use of handouts and ways of obtaining feedback from students. The study that we undertake here focuses on the linguistic result of such techniques used by MICASE lecturers.

Young’s (1994) study is adopted for analyzing our lectures from a qualitative point of view. She differentiates six phases, which are “strands of discourse that recur discontinuously throughout a particular language event and, taken together, structure that event. These strands recur and are interspersed with other resulting in an interweaving of threads as the discourse progresses” (Young 1994: 165). There are three which she calls metadiscoursal, that is, “strands which comment on the discourse itself” (Young 1994: 166) and three which she refers to as “the other three” which are non-metadiscoursal. The metadiscoursal phases are:

- *The Discourse Structuring phase*, in which the speaker announces the different parts or directions of the lecture.
- *The Conclusion phase*, in which the main points covered are summarized.
- *The Evaluation phase*, where the lecturer evaluates the information transmitted.

The non-metadiscoursal phases are as follows:

- *The Interaction phase*, which refers to the interpersonal strategies that the lecturer implements to establish contact with the students and to make sure they understand the concepts.
- *The Theory /Content phase*, where the theories, models and definitions of the topic are offered.
- *The Examples phase*, where lecturers demonstrate theoretical concepts through examples.

This theoretical framework has already been applied successfully in the study of three academic lectures in a Spanish University Engineering context by Dafouz (2007) where teaching was conducted in English.

## 2. RESEARCH AIMS

The Michigan Corpus of American Spoken English (MICASE) corpus started in 1997 at the University of Michigan and has transcribed 1.8 million words of academic speech (Simpson et al. 2002). The study that we undertake here focuses on monologic large lectures as a subgenre within lectures, reporting on the analysis of 30 transcripts in MICASE.

In integrating both a systemic-functional approach (Halliday 1994, 2004) with Young's lectures taxonomy as an overall genre-analysis perspective for this contribution, the first objective of this paper is to explore the discourse strategies that MICASE lecturers use as well as the structure that they usually follow in the delivery of the subject content. MICASE examples have not been edited to this end, thus reflecting accurately the features of oral speech.

As a second objective, it is also our aim to verify whether lecturing styles correlate with different disciplines (Dudley-Evans 1994) or whether the differences between technical and non-technical fields are not significant, as stated by Young (1994). Three comparable sub-corpora are used for this purpose:

- Biological and Health Science (8 transcripts, 78,448 words). Sub-corpus A.
- Humanities and Arts (8 transcripts, 80,324 words). Sub-corpus B.
- Social Sciences and Education (8 transcripts, 86,635 words). Sub-corpus C.

## 3. METHODOLOGY: SYSTEMIC FUNCTIONAL GRAMMAR AS A MODEL OF ANALYSIS

For the analysis of the large lectures corpus, this study follows Halliday (2004). Systemic Functional Grammar (hereafter SFG) has proved to be very useful in the analysis of language since it is oriented to the description of language as a resource for meaning rather than a system of rules. The micro-features to be analyzed from a qualitative perspective are based on Halliday's (2004) view of the use of language to

convey three main macro-functions: the ideational function, the interpersonal function and the textual function. They will be briefly sketched here due to space limitations.

For the study of the ideational function, Halliday centers on the analysis of processes, circumstances and clause complexes. SFG mainly focuses on mood and modality for the interpersonal function. While mood examines indicative, interrogative and imperative clauses (Martin, Matthiessen and Painter 1997: 11), modality focuses on probability, obligation and readiness, notions which are realized by modal verbs (e.g. *must, should, can, may, might, could...*) as well as modality adjuncts (*certainly, clearly, definitely, doubtless, improbably, maybe, no/without doubt, perhaps, possibly, probably, surely, sure enough, undoubtedly*) and also adjectives in different genres (*doubtful, impossible, likely, possible, probable, unlikely*), as pointed out in the literature (Alonso Almeida 2012; Molina 2012; Mushin 2001). Lastly, the textual function focuses on the different resources concerned with the organization of information within individual clauses and, through this, with the organization of the larger text according to Martin, Matthiessen and Painter (1997: 21). Connectors and other cohesive features such as collocational patterns, reference, substitution and ellipsis play a basic role in this function.

From a methodological point of view, our study takes shape through a focus on (a) the analysis of processes and clause complexes for the ideational function; (b) the expression of modality, questions and polite speech acts for the interpersonal function; and, finally, (c) clause relations for the textual function (Winter 1977). To complete the methodological approach to the research herein undertaken, examples of Young's metadiscoursal phases will be accordingly provided. Given the broad scope of Systemic Functional Grammar, a limited account of the most relevant findings from a qualitative point of view will be presented in section 4. This study aims at discovering possible phenomena and practices in order to establish evidence that there is a participant-relevant practice. This study might lead to more quantitative-oriented ones in the future<sup>1</sup>.

## 4. RESULTS

### 4.1. *Ideational and interpersonal function in MICASE large lectures*

#### 4.1.1. Processes and Clause Complexes

Material, mental and relational processes are the main types in the English transitivity system (Halliday 2004: 171). Material clauses represent processes of doing-and-happening and are frequently used by lecturers when discussing a procedure concerned with their experience of the material world (as in example 1 in bold type):

1. that's what I'm saying, if you've only got a small section **you can probably trace the backbone**". (LEL175SU098).

Mental clauses are concerned with our experience of the world and the subject in example 2 is the lecturer plus the students (inclusive “we”), the senser in Halliday’s terminology, the process is “see” and the phenomenon is that the structure to the right is the most important one:

2. so if we compare this these two structures, **we will see that the structure to the right, is the one that we should be, considering.**”.. (LEL200MU110).

Finally, relational clauses serve to characterize and identify (Halliday 2004: 210). Drugs of Abuse lecture has a fair sprinkling of relational clauses highlighted in *italics* in example 3 below. It characterizes various aspects of serotonin neurons construing a model of how they work:

3. i’ve got a few extra slides thrown in here so you won’t have like this one’s not on your handout i don’t think. this one’s on your handout when we talked about uh, monoamine neurotransmitters. and\_ but this **is** just to remind you, about serotonergic systems which we already talked about, just to, to jog memories. uh, and you should all remember, i- i- serotonin neurons **are**, located primarily in the raphe nuclei so the cell bodies for these cells **are** down in a, a series of nuclei in the brain stem called raphe nuclei collectively. and they send their axons up to a whole variety of, forebrain structures. so the serotonin, uh axons innervate the entire neocortex the hippocampus the hypothalamus uh, with the cell bodies located down in the in the in the midbrain. and so what you **have** here then **is** a serotonin terminal, let’s say **that’s** in the cortex and the hippocampus, then this just outlines, the synthesis of serotonin with the precursor, being uh tryptophan, which **is** it came from dietary sources. you **have** a, simple enzymatic step, uh tryptophan hydroxylates, an intermediate five hydroxy tryptophan and then th- then serotonin. so serotonin **is** the final product (LEL500SU088).

Clause complex is used to refer to a unit consisting of two or more clauses related either paratactically or hypotactically, but not by embedding (Downing and Locke 1992: 274) and it is the grammatical unit above the clause. As the linguistic expression of a situation, the clause complex in large lectures shows the ways in which the lecturers organize their knowledge in order to present certain parts as more salient than others <sup>2</sup>.

A typical strategy is extension, which has an additive meaning. The secondary clause extends the meaning of the primary clause by such meanings as addition, variation, alternation, explanation and exception. Cohesive connectors can be used to reinforce these meanings. An example of variation is the discourse marker *but*, which presents the secondary clause as replacing the primary clause:

4. other words the A-nine cells that metastasize rarely that’s correlated with a strong immune response vice versa, if a weak immune response that’s correlated with a high rate of metastasis. **But** the key word here is correlation. You cannot prove cause and effect here, from this kind of observation (LEL175SU106).

The Given items are the anaphoric reference item *here*, and the conjunctive item *but* harking back to *metastasize* in the first sentence.

#### 4.1.2. The use of questions and polite speech

The to-and-fro movement of interactive large lectures between teacher and students is clear in the occurrence of utterances which either form a response or elicit a response. It is no wonder that questions are frequent in these lectures. Lecturers tend to invite questions while they speak using an informal conversational style (De Carrico and Nattinger 1988; Dudley-Evans 1994; Morell 2004; Fortanet and Bellés 2005). Usual questions seeking the angle of the listeners and hence fostering students' participation in class in MICASE large lectures are *Why do you \_\_\_?*, *How do you \_\_\_?*, *What do you \_\_\_?*<sup>3</sup> (Halliday 2004: 131):

5. what **do you think** you'd do in this situation? any thoughts? Danielle? (LEL, 185SU066).

The lecturer's intention in asking this question is, typically, to obtain information which she thinks the hearer may know.

The use of stereotypic polite openings is also typical, for example, the interrogative forms *would you* and *could/ can you* functioning as requests as in this example where the student utters a clarification request in order to overcome a communication breakdown as in: Can you go over the effects of tolerance again?

As a final point related to questions, students use *pardon?*, *sorry?*, *I beg your pardon?*, *excuse me* as polite equivalents of *what*, seeking repetition of the lecturer's previous message and lecturers also use these formulas to self-correct the mistakes in their ongoing speech. *Sorry* is the most used formula, followed by *pardon?* and *I beg your pardon?*. See quantitative findings below in figure 1.

In other cases, the collective first person imperative *let's* is used instead of the second person imperative as a less face-threatening option, interspersed with other politeness formulae such as *excuse me*:

6. **Let's see...** a neat approach for dual com- for travel between, y- one would imagine the same neat approach should work for single-command and avoid brute force integration. so let's go back to single-command... for the statistical approach. this one and i said uh statistical slash probabilistic, this one takes advantage of the C-D-F of the travel time the cumulative density function of the travel time. so uh **excuse me** the cumulative distribution function, uh not the probability (LES330JG052).

*Let's see* is an idiomatic phraseme signalling that the lecturer is trying to retrieve some fact from memory ('We must consider this'). In general terms, *let's* emphasizes the egalitarian, cooperative aspects of the relationship of the lecturer with the students. The Lecturer proposes a joint action clearly intended to be carried out by the students. This is a favored option, as evidence twenty-nine raw tokens.

Lecturers also use various polite speech-act formulae such as *thanks*, *thank you*, etc. which usually behave as invariable items as in:

7. to keep it, warm, is the immediate, imagined, possible, reason. but that would be, wrong, but i thank Sven for offering that <LAUGH> to us so that we can discuss it. **thank you** Sven (LEL175JU086).

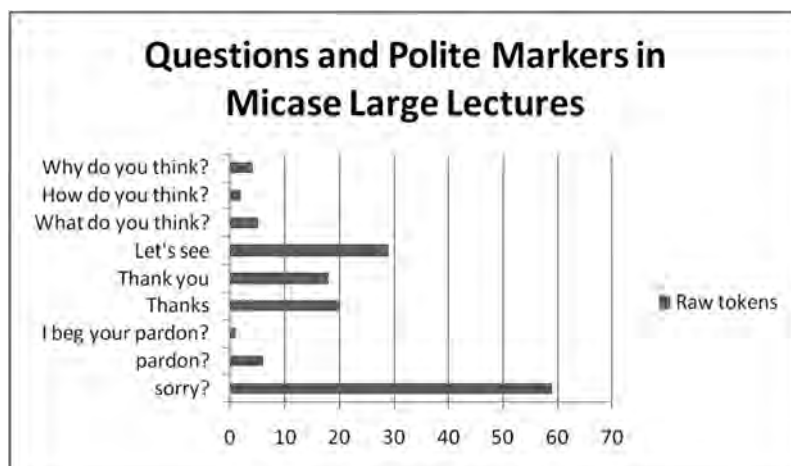


Figure 1. *Questions and Polite Markers. Interpersonal Function.*

Lastly, no instances of impoliteness such as academic argument are found; the general tone is consensual rather than antagonistic (Swales 2006: 23).

#### 4.1.3. The use of pronouns and modal verbs

As in other types of conversation, large lectures are also marked grammatically by a high frequency of pronouns (Rounds 1987; Hyland 2001; Biber et al. 2002). These studies have shown that personal pronouns are excellent markers of subjectivity in a text, since the textual and interpersonal relationships are fundamental for a message to have a perlocutionary effect.

The large lecture corpus was therefore scanned for quantitative evidence of pronouns which encode the stance that academics take by recurrently mentioning themselves in their lectures. In order to promote their expertise, lecturers take a stance not only by using the first person singular *I* but also by evaluating the academic quality of their colleagues' work and scientific procedures, as in example 8 below, where the lecturer enacts several identities behind this personal pronoun (e.g. guide through the lecture, architect of the lecture, re-counter of the research process, opinion holder expressing a process of cognition, originator of ideas, according to Ivanić 1997):

8. **I** think I said there is no single experiment it's not like there's one right answer it's a very complicated question how scientists go about, establishing cause and effect, (...) (LEL175SU106).

Large lectures are carried out in face-to-face interaction with others, which means that the teacher and the students share not just an immediate physical context of time and space but a large amount of specific social, cultural and situational knowledge.

The sharing of situational knowledge is most obvious in the case of the first and second person pronouns (*I*, *we*, *you*) which refer directly to the participants in the lecture<sup>4</sup>. From a quantitative point of view, the second figure shows that large lectures favor more the use of *I* than *we*, which supports the conclusions of other studies (Hyland 2001; Fortanet and Bellés 2005).

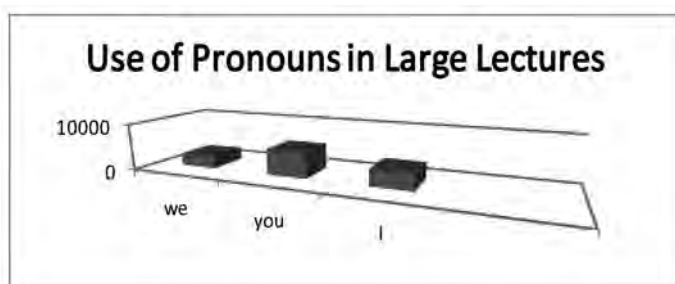


Figure 2. *Use of the pronouns we, you, I in MICASE large lectures (raw tokens).*

The study of the three subcorpora renders a similar picture although there are differences according to academic disciplines: *I* and *You* are more significantly used in sub-corpus C. *We* is more significantly used in sub-corpus A, thereby indicating a more collectivist orientation in science academic discourse:

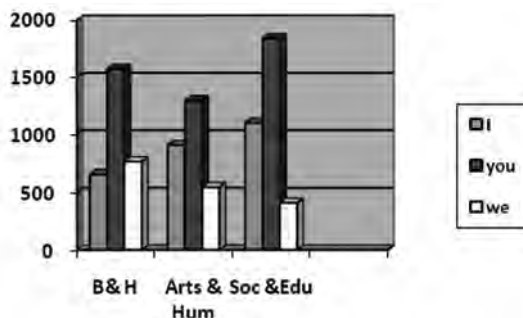


Figure 3. *Use of Pronouns in sub-corpora A, B and C.*



These nominative pronouns occur almost invariably at the beginning of a clause –often at the beginning of a turn where the build-up of planning pressure on the lecturer is likely to be great. Lecturers tend to use these pronouns in a notably higher proportion than undergraduates, which indicates a highly monologic type of lecture, as shown in figure 4.

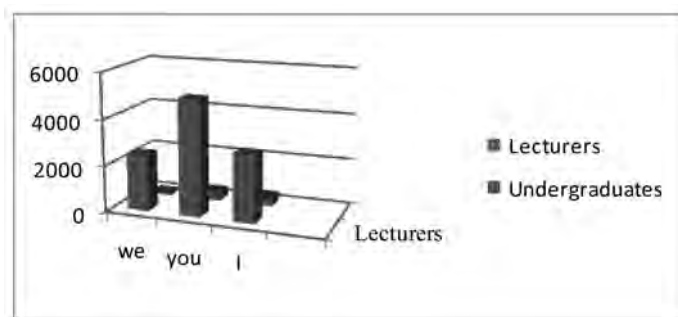


Figure 4. Use of *we* and *you* in MICASE large lectures.

It is also noteworthy that all pronouns appear discontinuously in the six phases identified by Young with different discursive functions. In large lectures “I” is frequently used in the Discourse Structuring phase to anticipate the different stages in their talk, to guide the students through them and to set the objectives, as in (9) and (10). The speaker uses the semi-modal *want to* (Leech 2003) to commit himself to a course of action (continue explaining Roman history in example 9 presented as a narrative and use Roth’s novel to discuss two issues in example 10):

9. um, what **i** wanna do today, uh is to continue on obviously through our rapid tour, of Roman history from the foundation of the city, down to the reign of Augustus. um, again you will find a few of the names that **i** am mentioning and going on about, (...). (LEL215SU150).
10. um the class today is um, recorded, for um a database, for the, Program in Linguistics is that [R1: mhm ] um a database of um, academic discourse. um, so, um this is completely independent from the course and it should, in no way inhibit your, participation. just, ignore it basically. um, what **i** wanna do today, with you is use, um Roth’s novel *The Ghost Writer*, to um to discuss two issues that have to do with collective, memory, after the Holocaust (LEL542SU096).

*I* also tends to precede the verbs to show the speaker’s thinking, in collocations such as “I mean”, “what I mean”. The former is the favoured option: 252 tokens versus 7 (example 11). A lecturer also uses *I* when he or she assumes the role of thinker, presenting the ideas and examples to students, when he tells a personal narrative for making a topic more interesting as in LEL300SU076 and for individual interpretations or evaluations of content (example 12):

11. so, let's take a concrete example. you'll see **what i mean**. suppose i'm in oh you know a, a something coasting along like this at constant velocity, (LEL485JU097).
12. the, the politics of this book, **I think** um, are important (LEL300SU076).

Finally, *I* is used in the concluding phase when some lecturers activate an individualistic orientation:

13. in other words the A-nine cells that metastasize rarely that's correlated with a strong immune response vice versa, if a weak immune response that's correlated with a high rate of metastasis. but the key word here is correlation. you cannot prove cause and effect here, from this kind of observation. if **i** were to have jumped to the conclusion that the immune strong immune response elicited by the A-nine cell, is responsible for their low rate of metastasis if **i** concluded that, solely based, on these data i would be committing the post hoc fallacy (LEL300SU076).

*You* is the most common pronoun, followed by *I* and *we*, as stated by Fortanet (2004). According to Okamura (2009: 19), you is most frequently used in undergraduate lectures, while *I* is most employed in large lectures. The conclusions of Okamura's study about the use of you can be summarized in three main points (Roman numerals):

I. The use of *you can see* shows that this collocate seems useful for guiding the audience, irrespective of the type of lecture as in example 14:

14. **you can see** a lot of instances where you would like to track, the, the implications for what we're doing now, over time and how they're affecting, the same variables uh, in the future (LEL280JG051).

II. *You* does not seem to be used to create a distance from the audience. *You* accompanies verbs to show that it is the students who need to act, which can be seen clearly in the use of "you read" in example 15 demanding previous study in this biology of cancer lecture:

15. you end up getting cells that frequent metastasize. so this clearly shows that the plasma membrane, influences the ability, to metastasize. <PAUSE :13> so you change the membrane composition, you change the ability of the cell to metastasize. now why is that? what's going on here? well we don't know for sure, uh but if **you read** the article that i assigned that you were supposed to read prior to today's lecture, you know that we think that interaction between the immune system and this plasma membrane is somehow involved (LEL175SU106).

III. The most frequently used collocates of *you* in undergraduate lectures are "if you were/are", which demonstrates that the speaker intends to engage the audience in the talk, rather than using impersonal forms or third party nouns as in example 15 quoted above.

When studying other clusters, it is remarkable that the pronoun *you* appears in the Discourse Structuring Phase in combination with *could*, *will*, *want to*, *have to* and *can*. Figure 5 shows the raw tokens for these clusters found in large lectures:

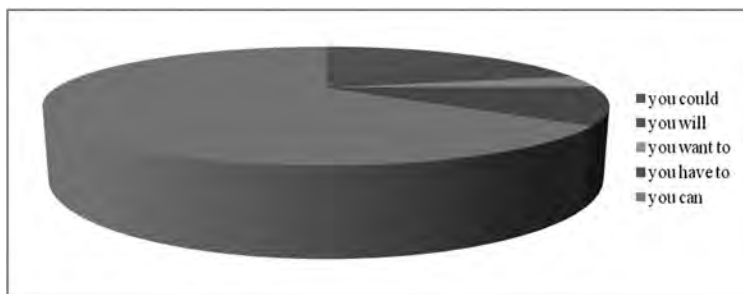


Figure 5. *Distribution of you clusters in MICASE large lectures. Raw tokens.*

*You can* is by far the most common in all of Young's metadiscoursal and non-metadiscoursal phases. This is not surprising, as *can* is extremely common in conversation (Biber et al. 1999: 487) and marks students' ability and mainly logical possibility in the unfolding explanation, thereby trying to help the listener follow the typical academic reasoning style, as in:

15. so the first most of what today is going to be about is, **can** you find some behaviors that it looks like we **can** make an evolutionary argument about? what would you want to look for in a behavior that would be consistent with an evolutionary argument? the second thing is, if you make an evolutionary argument, or any biological argument, how should you interpret the meaning of that? so evolution for example is really a theory, about how environments shape behaviors over millennia. so at some level **you can** talk about it as being a biological cause, it's our genetics, it's our evolutionary heritage (LEL500JU034).

Ability and logical possibility are frequently indicated by *you can*. This cluster is ambiguous in lectures, since it can often be understood as marking either ability or logical possibility (examples 17 and 18 from the theory and interaction phases respectively):

17. you **can't** talk about absolute fitness, because, you can be perfectly well adapted to your environment and then the environment changes (LEL175JU154).
18. that's what I'm saying, if you've only got a small section **you can** probably trace the backbone. (LEL175SU098).

*You could* is sometimes ambiguous in marking logical possibility or ability, and implies that the statement about how metastasis works in example 19 is based on plausible reasoning rather than certain knowledge:

19. you were all holding hands and joined to each other clearly it'd be very difficult to metastasize you **couldn't** very, easily invade, uh you'd all hafta, you know move as a as an attack unit, and if all the cells (LEL175SU106).

Pronoun *we* is also frequently used as an opening device in the discourse structuring phase as lecturers want to present their students the various sections of the lecture (Thompson 1994: 176). Typical examples are as follows:

- 20 a. a few announcements before **we begin** (LEL175SU098).  
 20 b. and today **we're gonna talk** a little bit about, epidemiology this is my favorite epidemiology cartoon (LEL115SU005).  
 20 c. and, today **we're going to talk** about the theory of relativity and then again some more uh tomorrow (LEL 485JU097).

*We* collocates with modal verbs such as *could*, *will*, *want to*, *have to*, *can*. The number of *we* collocates is considerably lower than *you* collocates as Figure 6 shows:

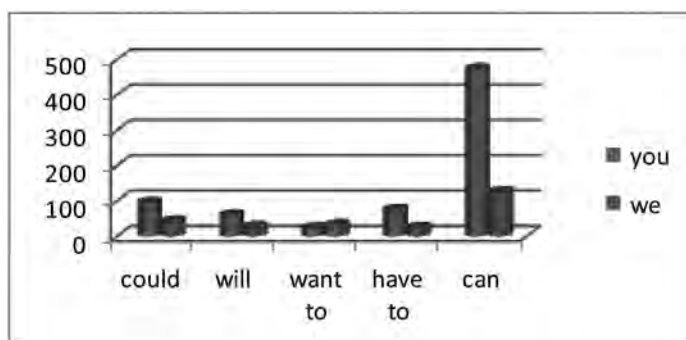


Figure 6. *You and we+ modal verbs in large lectures. Raw tokens.*

*We* is used in the *theoretical phase* to convey the ideational macro-function. The most frequent cluster is formed by *we+lexical verb* (2261 instances) where the verbs mostly refer to material processes for describing actions or events. Additionally, mental processes of cognition and perception have been found (clusters such as *we think*, *we see* with 34 and 52 tokens in that order) in this content phase.

*We can*, *we could* clusters are present both in the *theoretical* and *exemplification phases* to help students to follow the classic academic reasoning style as in the following example from General Ecology lecture:

21. **you could** have species that are group hunters like lions, where they hunt together and they're more successful if they hunt together (LEL175JU112).

Admittedly, lecturers also use the pronoun *we* in Young's *evaluation phase* to avoid drawing attention to them and focus students on the discovery of new concepts and

ideas. Lecturers underline what they consider to be the main concepts, and make explicit judgments regarding the validity, appropriateness or relevance of the theories presented. Attributive relations are the ones dominating this phase:

22. to explain supposed inferiority or superiority of different racial groups and **we need** to talk about, what these things are, what the theories are for when you talk about the ways that (...) (LEL115SU107).

*We* activates a collectivistic orientation both in the *evaluation and conclusion phases* of lectures (see example 23 below from the evaluation phase), which is a solidarity mechanism serving to establish common ground between the lecturer and the students. If we also revise the use of pronouns in the non-metadiscoursal phases, *we* is used to establish a bond with the learner (Fortanet 2004):

23. so, again this is one of those, implicit calculation models it's saying that, you can model human behavior, based on what's implicitly going on, within people's brains, it's not necessarily the case people are making this kind of a systematic calculation, but this is a way that **we** can evaluate the way rewards, for motivational schemes are working (LEL185SU066)

Mauranen (2001) mentions another significant use for *we* in terms of 'discourse reflexivity', as a key feature of the MICASE corpus. There are prospective devices such as *we'll discuss* as in example 24 signaling what is about to come:

24. so **we'll discuss** those tomorrow, and see both the strengths and weaknesses of the various experimental approaches (LEL175SU106).

As far as pronouns are concerned, it may be finally pointed out that some lecturers alternate the use of pronouns *we/ you*: *we* is used when they are explaining concepts and making generalizations whereas *you* is employed for offering examples as in the example below:

25. So if **we** have net foreign financial investment, in the U-S, it means foreigners are buying up assets in this country over time that surely will affect, N-F-P these net, factor payments that are, crossing borders. if the foreigners are buying up a lot of assets here, it's gonna make the uh, N-F-P in the future go negative. cuz, profits'll be leaving. so anyway **we\_ you** can see a lot of instances where **you** would like to track, the, the implications for what we're doing now, over time and how they're affecting, the same variables uh, in the future (LEL280JG051).

In the example above, the speaker is faced with the need of both to plan and to execute his utterances in real time. Consequently, this is an instance of 'normal disfluency': he changes the pronoun "we" to "you" in the last sentence. As Biber et al. (1999: 1048) state, "the need to keep talking threatens to run ahead of mental planning, and the planning needs to catch up".

#### 4.1.4. Evaluating content: stance adverbials and epistemic adjectives

Lecturers use modal markers to indicate their attitude towards the message communicated and they emphasize the actuality or reality of what they are saying using markers such as *really*; mark some level of doubt in what they are saying using *probably*, *maybe*; and indicate that information is presented as opinion rather than accredited fact (Hyland 2004: 88). Lecturers also mark their certainty with adverbs such as *definitely* or *certainly*.

*Certainly* is at the extreme positive end of the scale for marking the degree of likelihood of a state of affairs. The speaker emphasizes the speech-act function of the main clause in example 26: ‘we probably oughta go through the book more’, using this epistemic stance adverb by endorsing.

26. Although what that myth might be, something you know we probably oughta go through the book more before we talk about. yeah, but that’s **certainly** not the recipe aspect of it that’s the same (LEL300SU076).

*Possibly* is mid-way between the positive and negative side of the scale. The speaker marks doubt or precision to the listener using this epistemic stance marker:

27. What they don’t know, that is to go against, the advice of their craft. but, possibly A more viable option, is to... get women and people of color... into industry. and that is happening (LEL220SU073).

*Probably* provides an assessment of certainty or doubt, as in:

28. Right and, very notable, the liver’s the only, set of cells, that carries the final bypass. This is, **probably** the most important one in distinguishing liver atrophy and muscle atrophy. Okay? Huge glycogen store (LEL175SU098).

*Maybe* conveys certainty or doubt as well:

29. I’d like to do is talk about the genre, and try to make clear some of the things in the book that **maybe** are not so obvious (LEL300SU076).

Downing’s (2001) study sees *surely* as challenging and confrontational rather than polite. However, we believe that this result cannot be extrapolated to different genres. In academic lectures, the lecturer tends to use *surely* when he considers the state of affairs to be true, a reasonable supposition. The speaker wants simply to prove that he is correct in his assumptions in this Graduate Macroeconomics lecture:

30. It means foreigners are buying up assets in this country over time that **surely** will affect, N-F-P these net, factor payments that are, crossing borders (LEL280JG051).

Lastly, it should be noted that these adverbs are not evenly distributed in the academic divisions, as table 1 shows below. Sub-corpora A & B within large lectures

reveal that Biological and Health Sciences (sub-corpus A) favor more the use of epistemic adverbs than Humanities and Arts (sub-corpus B). The results are given in raw numbers, and frequency per thousand words. By and large, the ratio of epistemic adverbs is higher in Biological and Health Sciences ( $66.03^{0}_{00}$ ) than in Humanities and Arts ( $40.83^{0}_{00}$ ). The profuse use of epistemic adverbs in both corpora reflects that lecturers have a lesser degree of commitment to the truth of the communicated proposition. One of the possible reasons for this is that these lecturers are cautious with certain findings in their disciplines and with the validity status of the information they present to students. The differences between the two genres –Biological & Health Sciences versus Humanities and Arts– in the use of ten most frequent adverbs are significant according to the non-parametrical statistical test Chi-square which tells us about the relationship between two nominal variables (33.41, Df: 9,  $p \leq 0.0001$ ).

Adverbs	Bio & Health Sciences N	R	Humanities & Arts N	R
	78,448 words		80,324 words	
<i>Basically</i>	231	2.9446	185	2.3031
<i>Really</i>	165	2.1033	143	1.7802
<i>Actually</i>	122	1.5551	54	0.6722
<i>In fact</i>	41	0.5226	31	0.3859
<i>Probably</i>	39	0.4971	15	0.1867
<i>of course</i>	36	0.4589	30	0.3734
<i>Maybe</i>	30	0.3824	43	0.5353
<i>Currently</i>	23	0.2931	8	0.0995
<i>Hopefully</i>	15	0.1912	8	0.0995
<i>Essentially</i>	15	0.1529	4	0.0497
Total	717	66.03	521	40.83

Table 1. *10 Most Frequent Epistemic adverbs in Biological and Health Sciences versus Arts & Humanities (sub-corpus A and sub-corpus B. Raw tokens and frequency per thousand words).*

A similar picture emerges in Table 2 below when the epistemic adjectives in sub-corpus A and B are compared quantitatively. All in all, there are more epistemic adjectives in sub-corpus A than B. Compared to A, *possible* is used over three times in sub-corpus B. *Likely* is more significantly used in sub-corpus A. The use of *sure*, *impossible*, *true*, *certain* is similar in the two subcorpora. *Probable*, *improbable*, *uncertain* are not used in any of the three subcorpora.

Adjectives	Bio & Health Sciences N of tokens	R per 1000 words	Arts & Humanities N	R
	78,448 words		80,324 words	
<i>Possible</i>	7	0.0892	21	0.2614
<i>Probable</i>	0	0	0	0
<i>Likely</i>	30	0.3824	1.	0.0124
<i>Unlikely</i>	0	0	0	0
<i>sure (enough)</i>	25	0.3186	23	0.2863
<i>Improbable</i>	0	0	0	0
<i>Impossible</i>	5	0.0637	7	0.0871
<i>True</i>	21	0.2676	23	0.2863
<i>Certain</i>	26	0.3314	23	0.2863
<i>Uncertain</i>	0	0	0	0
TOTAL	114	1.4529	98	1.2198

Table 2. *Epistemic adjectives in sub-corpus A & B. Raw tokens and frequency per 1000 words.*

These epistemic adjectives are used by lecturers to mitigate the force of what is said. *Likely* is the most used in large lectures:

31. These cancer cells now are **likely** to be as big as or bigger than the diameter of these capillaries, and therefore **likely** to get hung up and stuck (LEL175SU106).

The above structure with a noun phrase ('these cancer cells') is used to show that the expression of attitude is attributed to a third person rather than to the lecturer.

*Possible*: In example 32, the expression of stance is once again not directly attributed to the Ecology lecturer:

32. but that's not necessarily true because you could have predation, where the lynx are killing all these hares, but **it's possible** they're just killing hares that would have died anyhow (LEL175JU112).

There is also a considerable use of the antonym *impossible* in Large Lectures, which may be taken to be an instance of dynamic modality to be interpreted in terms of the general circumstances that make an action possible or impossible (Palmer 2001: 70) as in:

33. So the going up and going down represents a crossing of boundaries. the bringing together of realms that may appear to be **impossible** to join (LEL300SU076).



#### 4.1.5. Attitudinal Stance

According to Biber et al. (1999: 974) these stance markers report personal attitudes or feelings. Some of these stance forms are clearly attitudinal (e.g. *unfortunately*), while others mark personal feelings or emotions (e.g. verb+ extraposed complement clause ‘it is essential that...’). The latter construction is not found in our large lectures corpus. Therefore, we shall focus on adverbials. The most frequent adverbs and adverbials in this sub-corpus are *maybe*, *probably*, *certainly* and *perhaps* and the least popular are *possibly*, *surely*, *sure enough*.

##### *Hopefully and Unfortunately*

They significantly outnumber other stance markers in large lectures. *Hopefully* means *I am hopeful that* and also occurs in academic prose according to Biber et al. (1999: 857). *Unfortunately* is an evaluation marker functioning at boundary points in discourse. It is comparative, subjective and value-laden. Both coherence and cohesion depend on the evaluation given by this adverbial disjunct. The speaker evaluates here the chances that a cancer spreads as clearly negative for the patients as in:

34. **Unfortunately** for people who already have metastases and were treated with chemotherapeutic drugs, uh, most of the time, it’s actually a remission that occurs (LEL175SU106).

##### *Other adverbials*

*Fortunately*, *amazingly*, *conveniently* are also “conjuncts with attitude” but they appear very sparsely in the large lectures corpus and colloquia. Lecturers do not seem inclined to convey their attitude towards the propositions they express, thereby providing very scarce information about their evaluation, value judgment or assessment of expectations.

One might wonder why lecturers use few stance adverbials despite the fact that they are surely concerned with expressing their attitudes and evaluations. A possible answer to this may lie in the frequent use of post-predicate that-clauses following verbs and adjectives which convey emotional or evaluative meanings as in:

35. we say oh that’s a nice looking plant i’d like to have it in my garden, it’s terribly **important that** you check, its hardness rating, to be sure that if you plant it in your garden, it’s not gonna free ... (LEL175JU086).

Finally, it should be noted that *unfortunately* significantly outnumbers other stance markers in large lectures.

##### *Evaluative Adjectives*

Lecturers show a preference for extraposed *to*- clauses, especially those controlled by adjectival predicates marking necessity/ importance or their personal evaluations.

Example 36 with the adjective *important* expresses the lecturer's opinion about the value of remaining critical of how the collective memory is shaped. Nine examples of this extraposed *to*- clause are found in the large sub-corpus of lectures, which, in spoken discourse, is considered one of the most common (Swales and Burke 2003).

36. so it it's interesting to to see how, how memory, this, collective memory's shaped and um, it's it's **important to**, to remain critical of that process (LEL542SU096).

Likewise, thirteen examples of 'it is possible to' appear in the sub-corpus expressing possibility as in:

37. they wanted um, the people of the nation to reflect on the message of Anne Frank that in the face of evil it is **possible to** retain a belief in humanity (LEL542SU096).

Lastly, *amazing* (13 tokens in the sub-corpus) is an example of affective or evaluative word choice as it involves only a single proposition, rather than a stance relative to some other proposition. It is clear that the lecturer values the diary of Anne Frank's quality positively, and she also uses a common attributive adjective such as "fine" for expressing her emotional empathy with the writer. She uses declarative utterances that give the impression of presenting stanceless 'facts'.

38. the diary itself is uh, is incredibly powerful because, sh- she develops into a, um, a a very um, fine human being in just the, course of, of two years. it's it's **amazing**, um to think that she was only fourteen when she was writing (LEL542SU096).

A final examination at the large lectures corpus let us highlight the fact that lecturers show a preference for extraposed *to*- clauses, especially those controlled by adjectival predicates marking necessity/ importance or their personal evaluations.

#### 4.2. *Textual function in lectures*

The reader is referred to Bellés-Fortuño's (2006) study for a comprehensive study of Discourse Markers in MICASE. She concludes that there is a trend to convey lexical and descriptive meaning in the discourse utterances of lectures through discourse markers affecting internal and ideational relations among the utterances. These discourse markers have mainly additional, temporal, causal, contrastive and consecutive meanings. She also mentions that the most common macro-markers functioning as topic- shifter clusters are *okay*, *and now*, *so now* (Bellés-Fortuño 2006: 298-306).

As far as coherence relations are concerned, language is not simply used to describe the world and organize propositional information but also to perform actions in lectures. For instance, the discourse in this Practical Botany lecture shows that coherence emerges on a local, action-by-action basis, so that the sequential relationships between actions are derived from the knowledge that the lecturer uses to relate an utterance to an action (practical advice to prevent plants from warm places die in cold weather). A collocational

pattern emerges relating lexemes from Botany, which contributes to discourse coherence: *plant, places where they grow, garden* (highlighted in the text below).

39. some plants, don't tolerate cold, very well at all. they probably, naturally came from, warm places where it never got very cold. but because we bring things into the trade and sell them commercially, we're likely to, have available to us, plants that, are native to warm places, and are brought here where it's, perhaps not quite, warm enough to make them happy. or if we're ordering from a catalog, and we say oh that's a nice looking plant i'd like to have it in my garden, it's terribly **important that** you check, its hardiness rating, to be sure that if you plant it in your garden, it's not gonna freeze to death, in the first, winter (LEL 175JU086).

To make sense of a lecture, one of the tasks faced by the listeners is to comprehend the connections between its various elements. These connections, either signaled or inferred, are called **clause relations** by Winter (1977). Common core patterns of clause relations in large lectures are *problem-solution* and *general-particular*. The problem-solution pattern occurs frequently, but not exclusively, in expository texts like lectures. To illustrate this, let us consider the following extract from a Biology of Cancer Lecture:

40. so this means that if we could do anything to interfere with the process of metastasis, in essence we could cure people of cancer, or we could at least cure people of the most debilitating and threatening life threatening, aspect of **cancer** which is the ability, of these cancer cells to metastasize (1). so today we're gonna focus on metastasis (2). and in essence we'll be focusing on the question of what is it about cancer cells, that in fact, allows them, to metastasize, while the benign tumor cells, can't do this nor do other, normal kinds of cells do this (3). in addressing this question, first of all you have to realize that metastasis is not a single event (4). and we talk about metastasis it's not really, a single, process that we're talking about it's actually, a sequential series of events, all of which must take place, in order for this phenomenon, of metastasis to occur. we commonly we therefore divide, metastasis into a series of stages and i'm gonna use three major steps, to divide this process, today (5) .....if you could stop the motility of the cancer cell in stage one, if you could inhibit the production of proteases or interfere with their action, uh if could promote the interaction of the immune system, if you could influence any one of those steps, to the detriment of the cancer cell to the detriment of the cascade, then metastasis would not, take place, and if metastasis didn't pla- take place, cancer wouldn't be a disease that we'd have to worry about (6). (LEL175SU106).

The first sentence presents a situation (metastasis) and a problem associated with it (cure people of cancer). Sentence (2) introduces a preliminary *response* to the problem (getting to know better the process of metastasis). Sentences (3) to (5) give details of how metastasis really works, while (6) offers potential alternatives to deal with metastasis effectively; in other words, it evaluates it as a problem to be solved in the near future when any of these possibilities will come into being. We thus have a pattern: *situation-problem-potential solution-evaluation of response*.

Finally, it should be noted that the structure *we+ have to* in sentence 6 is mainly used by lecturers to present the steps to follow in the scientific line of reasoning. This use may also be interpreted as an attempt to redefine the authoritative role of the teachers in their role of content presenters, showing certainty and authority in their lectures.

The second common pattern to be present is the *general-particular* structure, where a generalization is followed by more specific statements, perhaps exemplifying the generalization. To illustrate this pattern, we proceed to examine the introduction of this economic anthropology lecture:

41. the topic of today's lecture is economics. um, and there's a whole subdiscipline of anthropology devoted to the study of economic systems, around the world, and that is called, not surprisingly, economic anthropology (1). so today's an ec- uh, an introduction to, some of the main issues. as they've been laid out in your text and there's a lot of information there, so i'm gonna, walk you through it (2). Make sure that we get the main points (3). economic anthropology is defined, in the text, um as the part of the discipline that debates issues of human nature, that relate directly, to the decisions of daily life and making a living (4). this idea of making a living will come up again and again today. and um, we'll think about what that means to make a living...(5) when we say make a living we're generally talking about, what it requires for us, to, obt- you know, get our subsistence needs taken care of. subsistence being, your basic needs, clothing food shelter, and so, anthropologists use the phrase subsistence strategies for talking about the different ways, humans have come up with m- terms of how to, acquire those things that they need, that we need. so different subsistence strategies have already been introduced to you (6). (LEL115JU090).

Sentence (1) provides a generalization about a sub-discipline of anthropology, and anticipation of examples of this concept is given by a metaphor *walk you through it* in sentence (2). Sentence (3) is a preview which is then detailed in sentences (4), (5) and (6).

Lastly, lecturers use conclusion macro-markers in Young's conclusion phase (Morell 2004; Bellés-Fortuño 2006: 129) avoiding in most cases the most formal options typical of written discourse (i.e. *to conclude, in conclusion, we'll continue...*) and favouring a more interactional style with their students, which results in the use of inclusive *we*.

42. Cindy Sherman one of the most uh, well-known artists, who really comes to prominence in the nineteen-eighties, these are two of her un- untitled film stills, from the late seventies. two untitled film stills from the late seventies. and we see here, and as **we'll continue**, um, next week, **we'll look** a little bit, at Sherman at, uh, other, women artists in the eighties (LEL320JU147).

*Finally* (48 tokens in the sub-corpus of large lectures) is also a privileged option instead of using other possibilities such as “and the last thing” or “that finished up today's lecture”.

43. **finally** i'm going to point out for your prelab for part two, and briefly state in this last minute what you're doing in part two.

## 5. DISCUSSION AND CONCLUSIONS

This study has attempted to identify some linguistic devices that appear in MICASE university large lectures. The data was analysed using qualitative as well as quantitative methods, taking into account Halliday's (2004) model of language to convey three main macro-functions and Young's (1994) study about lectures.

Since we are dealing with relatively minor corpora, our conclusions are perforce tentative. The data reveal interesting findings: firstly, academic lectures are a complex genre which not only contains ideational content but also evaluate the subject matter, and reflect the lecturer's tenor with the students. Knowledge and experience structure the lecturer's expressions and expressions, in turn, also structure a given academic field.

Secondly, it has been shown that Systemic Functional Grammar gives information about the macro-structure and the micro-features of language varieties. More specifically, lecturers' frequent use of the pronouns *you*, *we* provide an accessible tone to the discourse and may favor student intervention. Lecturers seem to promote a solidarity relationship with their students, trying to promote their reasoning and a problem-solving framework. Therefore, the persistent use of *we/you* + verbs of modal possibility seems to be typical of this problem-solving structure of academic discourse in MICASE large lectures. There are differences in the use of these pronouns according to academic divisions, thus supporting Dudley-Evans's (1994) conclusions. Furthermore, other features such as discourse reflexivity have also been found when MICASE lecturers use these personal pronouns.

Thirdly, quantitative findings clearly suggest that the expression of speaker stance in the large lectures corpus relies mainly on verbal markers of epistemic modality (*can*, *would*, *could*, *may*). A feasible explanation for this lies in the fact that the main objective of lectures is to introduce students to different topics. Representative speech acts commit the lecturer to the truth of the expressed propositions. When they move into the realm of hypothesis/ speculation about the reasons behind certain results, they use *would/ could/ may*. Lecturers seek a balance between the precision expected in academic information and the vague language used sometimes in order to refer to fuzzy or problematic concepts. Modal particles such as *would*, *could*, *might* are syntactically integrated but dispensable items which express pragmatic meanings related with the knowledge of lecturer or students as regards the utterance where they appear. Lecturers also emphasize the actuality or reality of what they are saying by using other markers such as *really*; they hint at some level of doubt in what they are saying using *probably*, *maybe*; and they also mark their certainty with adverbs such as *definitely* or *certainly* when they want to highlight conviction.

Fourthly, the attitudinal stance markers conveying the speaker's attitudes, feelings or value judgments are scarcely used in MICASE large lectures, with the exception of *unfortunately* and the adjectives *important* and *amazing*. This is not surprising as lecturers are focused on conveying objective information about facts and concepts. However, one should expect that lecturers are concerned with expressing their attitudes and evaluations. The answer may be partly in the use of post-predicate *that*-clauses and

extraposed-*to* clauses following verbs and adjectives as many of the verbs and adjectives controlling such clauses convey evaluative or emotional meanings in large lectures.

Fifthly, as regards the textual function, language is not simply used to describe the world but to perform actions in lectures. The most common patterns of clause relations in large lectures are problem-solution and general-particular. No universal claims about the present condition of textual lecturing styles in the U.S. can be made on this basis. A final interesting trend that needs further study is that some professors intersperse their lectures with narratives to make the topic under discussion more attractive, mainly in sub-corpora b and c in Young's non-metadiscoursal phases.

The above-mentioned trends within the three MICASE sub-corpora as well as indications of more general developments in other lectures can be recognized that will have to be tested on a broader scale of empirical study in the form of hypotheses.

All in all, MICASE lecturers demonstrate their authority to students through the use of disciplinary resources, formal conventions, graphics, and idiosyncratic style. They also take a personal position towards issues in an unfolding explanation by using epistemic adjectives and adverbs and stance markers.

## NOTES

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<sup>1</sup> Molina's (2012) pilot quantitative study presents the interpersonal markers used in a specific written genre: Maritime English. She uses MarENG as a corpus, a Maritime English Learning Tool. There are relevant findings which confirm that there are certain genre specific uses, i.e. epistemic adverbs are more frequent than epistemic adjectives

<sup>2</sup> It is interesting to note that sub-corpus C has 13 examples of *What do you*\_\_\_? whereas sub-corpus A and B use it only twice each, which points at a more interactive discussion in the lecture in Social Sciences and Education. Likewise, *How do you*\_\_\_? is more productive in subcorpora A and C with 10 and 14 tokens than in sub-corpus B (3 tokens).

<sup>3</sup> Among the personal pronouns, research has often drawn attention to "I" and "we" in academic writing (Hyland 2001; Harwood 2005).

<sup>4</sup> For an extensive study of adjectives in written economics lectures, see Samson (2004).

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